



The BP 5170 photovoltaic module uses the world's leading commercial laser cell processing technology to produce volume-manufactured photovoltaics with exceptional efficiency. Its premium laser-grooved buried grid monocrystalline cells and large module area provide a premium power performance of 170 watts nominal maximum power and 24 volts of nominal output, providing more power than any other BP Solar module. Powering DC loads or, with an inverter, AC loads, its high efficiency is particularly suited for applications that need maximum energy generation from a limited array area, and for climates with poor insolation. Applications include utility grid-connected residential and commercial roof systems, building facades, distributed generation systems, telecommunication systems, and other arrays requiring high energy density.

Available versions include:

- BP 5170S – Framed module with rugged clear-anodized frame;
- BP 5170L – Unframed laminate version of the BP 5170S.

Proven Materials and Construction

BP Solar's quarter-century of field experience shows in every aspect of these modules' construction and materials:

- Frame strength exceeds requirements of certifying agencies;
- Laser patterning and processing minimizes cell front shading, maximizes efficiency;
- 72 high-efficiency monocrystalline cells laminated between sheets of ethylene vinyl acetate (EVA) and high-transmissivity low-iron 3mm tempered glass;
- Integral bypass diodes;
- Asymmetrical cables enable side-by-side or end-to-end module placement in arrays
- DC-rated plug-and-socket connectors provide reliable low-resistance connections and eliminate wiring errors.



DC Connectors

Limited Warranties

- Power output for 25 years;
- Freedom from defects in materials and workmanship for 5 years.

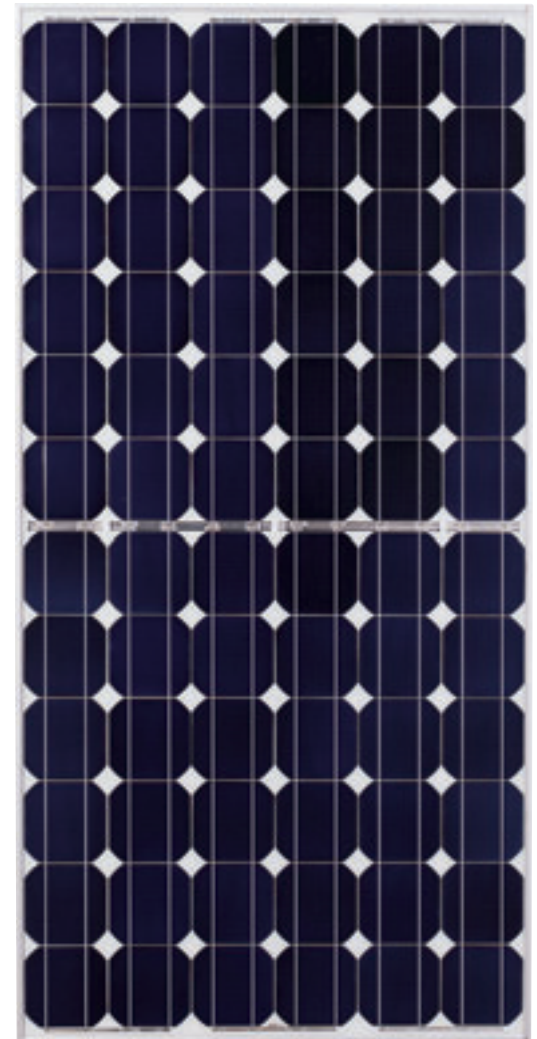
See our website or your local representative for full terms of these warranties.



Clear Anodized Universal Frame

Quality and Safety

- Manufactured in ISO 9001-certified factories;
- Conforms to Directives 89/336/EEC, 73/23/EEC and 93/68/EEC of the European Community;
- BP 5170S is listed by Underwriter's Laboratories for electrical and fire safety (Class C fire rating);
- BP 5170S is certified by TÜV Rheinland as Class II equipment;
- BP 5170S complies with the requirements of IEC 61215, including:
 - repetitive cycling between -40°C and 85°C at 85% relative humidity;
 - simulated impact of 25mm (one-inch) hail at terminal velocity;
 - a "hot-spot" test, which determines a module's ability to tolerate localized shadowing (which can cause reverse-biased operation and localized heating);
 - static loading, front and back, of 2400 pascals (50 psf); front loading (e.g. snow) of 5400 pascals (113 psf).
- The BP 5170L is recognized by Underwriter's Laboratories for electrical and fire safety.



BP 5170S



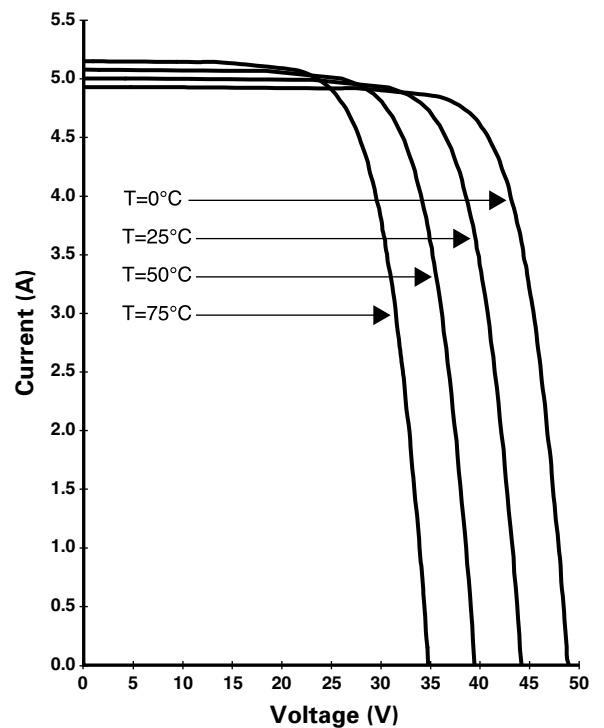
Electrical Characteristics¹

	BP 5170	BP 5160 ⁴
Maximum power (P_{max}) ³	170W	160W
Voltage at P_{max} (V_{mp})	36.0V	36.0V
Current at P_{max} (I_{mp})	4.72A	4.44A
Warranted minimum P_{max}	161.5W	152W
Short-circuit current (I_{sc})	5.0A	4.7A
Open-circuit voltage (V_{oc})	44.2V	44.0V
Temperature coefficient of I_{sc}	(0.065±0.015)%/°C	
Temperature coefficient of V_{oc}	-(160±10)mV/°C	
Temperature coefficient of power	-(0.5±0.05)%/°C	
NOCT ²	47±2°C	
Maximum series fuse rating	15A	
Maximum system voltage	600V (U.S. NEC rating) 1000V (TÜV Rheinland rating)	

Notes

- These data represent the performance of typical BP 5160 and BP 5170 modules and laminates as measured at their output terminals. The data are based on measurements made in accordance with ASTM E1036 corrected to SRC (Standard Reporting Conditions, also known as STC or Standard Test Conditions), which are:
 - illumination of 1 kW/m² (1 sun) at spectral distribution of AM 1.5 (ASTM E892 global spectral irradiance);
 - cell temperature of 25°C.
- The cells in an illuminated module operate hotter than the ambient temperature. NOCT (Nominal Operating Cell Temperature) is an indicator of this temperature differential, and is the cell temperature under Standard Operating Conditions: ambient temperature of 20°C, solar irradiation of 0.8 kW/m², and wind speed of 1m/s.
- During the stabilization process which occurs during the first few months of deployment, module power may decrease approximately 3% from typical P_{max} .
- The power of solar cells varies in the normal course of production; the BP 5160 is assembled using cells of slightly lower power than the BP 5170.

BP 5170 I-V Curves



Mechanical Characteristics

Weight

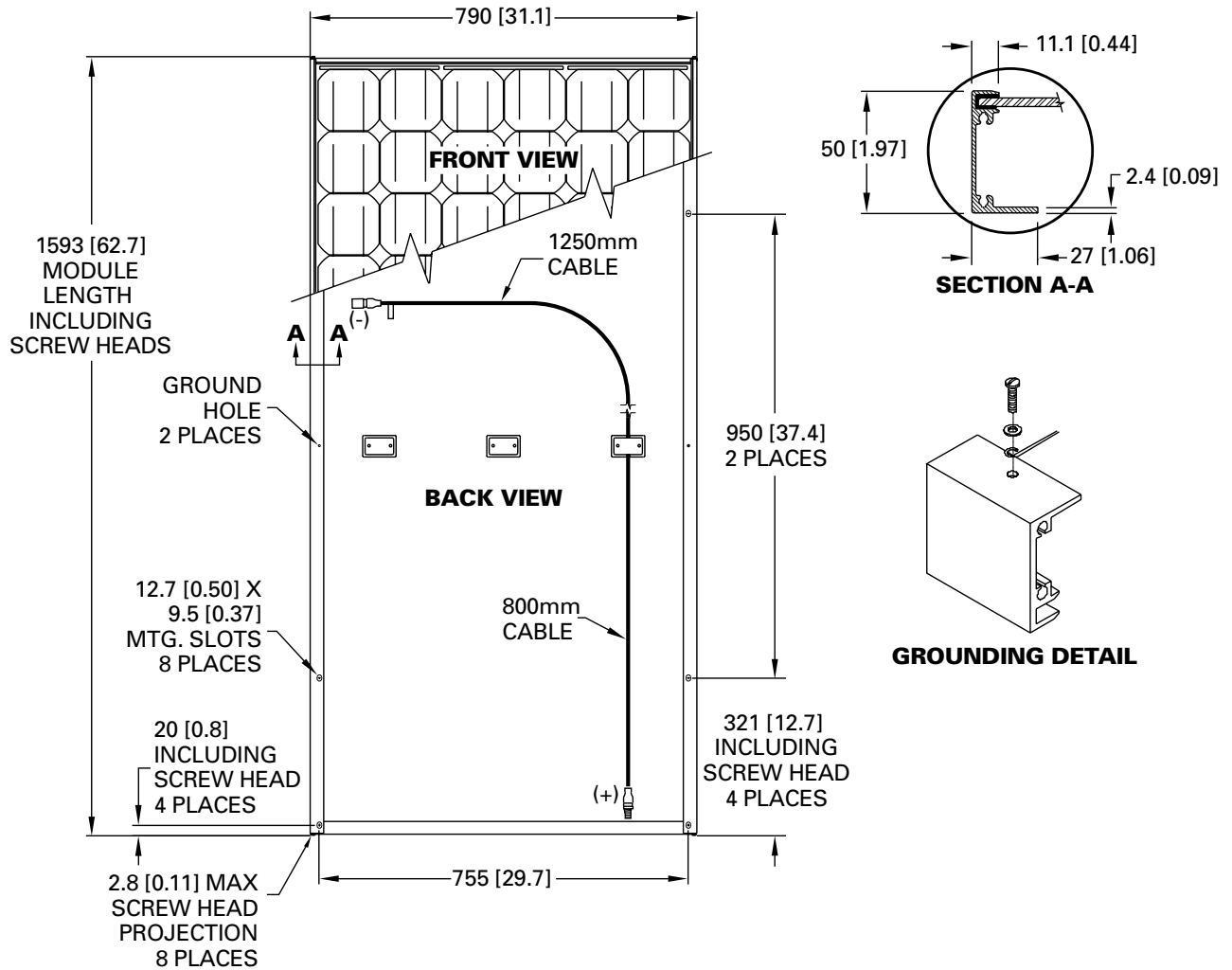
BP 5170S 15.0 kg (33.1 pounds)
 BP 5170L 12.4 kg (27.3 pounds)

Output

Asymmetrical RHW AWG# 12 (3.3mm²)
 2-conductor cable with weatherproof polarized connectors

Dimensions

BP 5170S: See drawing
 BP 5170L: 1580 [62.2] x 783 [30.8] x 19 [0.75]
 Unbracketed dimensions are in millimeters.
 Bracketed dimensions are in inches.
 Overall tolerances $\pm 3\text{mm}$ (1/8")



BP 5170S



This publication summarizes product warranty and specifications, which are subject to change without notice and should not be used as the definitive source of information for final system design. Additional warranty and technical information may be found on our website www.bpsolar.com or may be obtained from your local representative.



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